A RCT evaluating a pragmatic in-hospital service to increase the quality of discharge prescriptions

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Abstract: Objective To improve discharge prescription quality and information transfer to improve post-hospital care with a pragmatic in-hospital service. Design A single-centre, randomized controlled trial Setting Internal medicine wards in a Swiss teaching hospital Participants Adult patients discharged to their homes, 76 each in the intervention and control group. Intervention Medication reconciliation at discharge by a clinical pharmacist, a prescription check for formal flaws, interactions and missing therapy durations. Important information was annotated on the prescription. Main Outcome Measures : At the time of medication dispensing, community pharmacy documented their pharmaceutical interventions when filling the prescription. A Poisson regression model was used to compare the number of interventions (primary outcome). The significance of the pharmaceutical interventions was categorized by the study team. Comparative analysis was used for the significance of interventions (secondary outcome). Results The community pharmacy staff performed 183 interventions in the control group, and 169 in the intervention group. The regression model revealed a relative risk for an intervention of 0.78 (95% CI 0.62-0.99, p=0.04) in the intervention group. The rate of clinically significant interventions was lower in the intervention group than in the control group (72 of 169 (42%) vs. 108 of 183 (59%), p<0.01), but more economically significant interventions were performed (98, 58% vs. 80, 44%, p<0.01). Conclusions The pragmatic in-hospital service increased the quality of prescriptions. The intervention group had a lower risk for the need for pharmaceutical interventions, and clinically significant interventions were less frequent. Overall, our pragmatic approach showed promising results to optimize post-discharge care.

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A RCT evaluating a pragmatic in-hospital service to increase the quality of discharge prescriptions

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Key words

Patient discharge

Community pharmacy services

Hospital care

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Internal Medicine

ABSTRACT

Objective

To improve discharge prescription quality and information transfer to improve post-hospital care with a pragmatic in-hospital service.

Design

A single-centre, randomized controlled trial

Setting

Internal medicine wards in a Swiss teaching hospital

Participants

Adult patients discharged to their homes, 76 each in the intervention and control group

Intervention

Medication reconciliation at discharge by a clinical pharmacist, a prescription check for formal flaws, interactions and missing therapy durations. Important information was annotated on the prescription.

Main Outcome Measures

At the time of medication dispensing, community pharmacy documented their pharmaceutical interventions when filling the prescription. A Poisson regression model was used to compare the number of interventions (primary outcome). The significance of the pharmaceutical interventions was categorized by the study team. Comparative analysis was used for the significance of interventions (secondary outcome).

Results

The community pharmacy staff performed 183 interventions in the control group, and 169 in the intervention group. The regression model revealed a relative risk for an intervention of 0.78 (95% CI 0.62-0.99, p=0.04) in the intervention group. The rate of clinically significant interventions was lower in the intervention group than in the control group (72 of 169 (42%) vs. 108 of 183 (59%), p<0.01), but more economically significant interventions were performed (98, 58% vs. 80, 44%, p<0.01).

Conclusions

The pragmatic in-hospital service increased the quality of prescriptions. The intervention group had a lower risk for the need for pharmaceutical interventions, and clinically significant interventions were less frequent. Overall, our pragmatic approach showed promising results to optimize post-discharge care.

INTRODUCTION

Community pharmacists are often the first health care professionals encountered by the discharged patient [1]. Community pharmacists reported that dispensing to this population is important in terms of safety issues [2]. Drug related problems (DRPs), which affect 33-63.7% of discharged patients, can be identified by the community pharmacists [3-5]. Pharmaceutical interventions (PIs) may solve DRPs, but are often time-consuming [6, 7].

Lack of information on prescriptions was shown to hinder the identification of DRPs [2, 3, 7]. Pharmacists in Switzerland, and in other countries, reported that this applies for many essential information items, and they called for complete and updated information [2, 8, 9]. These are, specifically complete medication lists, information on medication changes, interactions, or more detailed information about compounded medication. Furthermore, patient involvement and counselling in discharge is crucial, as the patients' knowledge about medication may be limited [10, 11].

Different services to overcome inefficient or limited information transfer to pharmacies have been described in the literature [12-14]. Examples of services are the provision of instructions for health care professionals [15], the employment of liaison pharmacists [4] or the development of an information transfer sheet for hospitals [9]. Many such explanatory studies use strict designs, introduce new processes or need extensive resources for their service, which may hinder later implementation [8, 16]. As Treeweek et al. illustrated, applicability of a service may be a crucial aspect for decision makers. In addition, it should be taken into account that a country may have limited clinical pharmacy resources, as is the case in Switzerland [17]. Pragmatic approaches using realistic resources and based on existing processes are easier to implement in practice.

As clinical outcomes may be difficult to measure and depend highly on the patient's health, process measures may be useful indicators for the success of a service [12]. These may be medication errors [18] or pharmacist satisfaction with the prescription [4]. Other possible outcomes could be process measures representing the dispensing activities by community pharmacists, like PIs [19]. The literature lacks findings about the effect of a pragmatic intervention at the hospital on the number of PIs at the community pharmacy.

Aims

We designed a pragmatic in-hospital service by a clinical pharmacist, focusing on a discharge prescription check, and transfer of discharge information to community pharmacies. The primary aim was to increase quality of discharge prescriptions in the intervention group, measured by a reduction of PIs at the community pharmacy. We aimed to reduce the workload when filling the prescription, measured by time needed for prescription filling in the pharmacy and by established contacts, and to increase the satisfaction of the community pharmacist with the prescriptions. Furthermore, readmission rates, and the feasibility of the service should be evaluated.

Methods

The study was a single-centre, randomised controlled trial conducted at a tertiary teaching hospital in Baden, Switzerland. The procedures were developed according to the Medical Research Council guidance [20]. Ethical approval was given by the ethics committee.

Patient recruitment

Three wards of the internal medicine department (specialisations A: stroke and respiratory diseases, B: infectious diseases, nephrology and cardiology, C: geriatric ward) took part in the study. Patient records were consecutively screened for eligible patients during 13 weeks from January to April 2017. Inclusion criteria were: Patients of the internal medicine department, ≥ 18 years, without isolation due to infection, with standard or semi-private insurance, without cognitive impairment (e.g. acute delirium or severe dementia) that hinders patients from giving consent. Exclusion criteria were: Insufficient hearing or speaking skills to give consent, no consent, no medication prescribed, discharge on weekends, or those not being discharged to their homes. Patients were also excluded if they planned to fill their prescription in a non-participating pharmacy. Pharmacies were recruited in advance at a meeting of the regional pharmacists' association and also through a mailed request. All 121 pharmacies within the region were eligible, of which 70 participated. Eligible patients were visited in their hospital room and informed about the study by the investigators (LB, GP) in oral and written form. Patients gave written informed consent.

Study procedure

Shortly before the discharge of enrolled patients, they were 1:1 block randomised by LB in groups of 10, by means of a computer-generated randomised list. Consecutive numbers were given to consecutively discharged patients. Demographic data were recorded. The prescription was prepared as usual by the resident physician in charge. In both groups, a label was added to prescriptions that allowed the community pharmacy to recognise study patients.

In the intervention group, a clinical pharmacist (LB, CB) performed the service (exposure) and recorded the time needed. The service consisted of a prescription check, to identify DRPs, and a discussion of relevant PIs for optimisation, which were the following:

- Medication reconciliation was performed with the medication list from admission and from the last hospitalisation day. The pharmacy staff was not involved at admission. Changes were clarified with the resident, mostly by phone. Unintentional changes were corrected and intentional changes were specified on the prescription (e.g. “new”, “stopped”, “changed dose”)
- If opioids were prescribed on the normal prescription, the resident was informed that a special narcotic prescription form was needed.
- Formal flaws in names or units, unlicensed or compounded medications were identified and clarified with the resident; flaws were corrected or specified on the prescription (e.g. “compounded medication”, “medication available in Germany”).
- Missing therapy duration for anti-infectives and subcutaneous heparin was clarified with the resident and added to the prescription.
- Drug-drug interactions of grades 1-3 (1: “contraindicated”, 2: "contraindicated for precaution" 3: “surveillance/adjustment”) according to the Pharmavista software were checked [21]. Relevant interactions according to the clinical pharmacist's expertise were discussed and solved with the resident. Acceptable interactions were commented on the prescription (“Interactions were checked and can be tolerated”).

PIs accepted by the resident were implemented by the clinical pharmacist (LB, CB) directly on the usual prescription within the electronic patient records of the hospital. The resident then checked and signed the prescription.

At discharge, the resident handed out the prescription to the patient in both groups as usual. For all enrolled patients, a pharmacy case report form (pCRF) was faxed to the patient's community pharmacy. Previous to the study start, a Youtube video training was provided explaining the study procedure and how to fill the case report form. A second video explained the pCRF with an example case. The videos did not inform in detail about the service, to limit reporting bias.

The community pharmacies were blinded to the patient's group allocation. When the patient filled the prescription at their preferred pharmacy, a pCRF was completed for each prescription. All PIs were documented on the pCRF and categorised by the staff using an adapted form of pharmDISC (categories C-F), a validated classification system for community pharmacies [22]. The person contacted (e.g., physician) for discussion and resolution of the PI and their acceptance was documented on the pCRF by the pharmacies. For each prescription, the date, duration of prescription filling, the pharmacy staff's job role and their satisfaction with the prescription was documented.

The pCRF was then sent back to the study team. If no data was provided within some days after the patient's discharge, the pharmacy was called to ask for data transmission, or to identify drop-outs. Drop-outs were defined as patients who never filled their discharge prescription in the named or another participating pharmacy, or patients whose pharmacy did not provide data.

Data entry and categorisation according to $CLEO_{de}$ [23] were done by blinded investigators at the hospital pharmacy (GP, PW). $CLEO_{de}$ is a validated tool to categorise the clinical, economical and organisational significance of a PI. If needed, they called the pharmacy to clarify documentation. All data was double-checked by another blinded investigator (ML). Readmission rates were provided by the medical controlling unit, and were categorised as within 7, 18 and 30 days in accordance with the literature and the hospital remuneration system [24, 25].

Analysis

The primary outcome was defined as the number of PIs performed in the community pharmacy. Secondary outcomes were the duration of prescription filling, established contacts for a PI, and pharmacy staff's satisfaction with the prescription quality. Subjective satisfaction of prescription quality was documented on a 5-point Likert scale (very/rather satisfied, rather/very unsatisfied, not applicable). Furthermore, outcomes were the frequency pattern of performed PIs, the pharmacy staff's job role (e.g., technician), the time to fill the prescription after discharge, and readmission rates. Feasibility of the service was evaluated by the time needed to perform it.

For the primary outcome (the number of PIs) a Poisson regression model was fitted. Independent predictors were selected based on the literature [26-29] and discussion, and included gender, age, emergency admission, length of stay, number of medications, and the staff's job role. In addition, prescriptions were categorised into two groups, (prescriptions with at least one PI and those with no PI) and a logistic regression model with the same predictors was fitted.

Comparative statistical analysis was used to describe patient characteristics and outcomes in both groups. A Kruskal Wallis Test was applied to discrete and continuous variables (e.g. age, number of contacts, time needed to fill prescription), and a Fisher's Exact Test was applied to categorical variables (e.g. sex, satisfaction, readmission rates).

Calculations and analyses were performed using the software R, version 3.4.0 (R Foundation for Statistical Computing, Vienna, Austria). A two-sided p-value of <0.05 was considered as statistically significant. Power analysis based on the primary outcome with a level of significance $\alpha = 0.05$ and a power of $1-\beta = 0.8$ revealed a sample size of 75 complete patient data sets in each group.

Results

Of 866 screened patients, 172 were included in the study (Figure 1). With 10 drop outs in each group, complete data sets were obtained for 152 patients (152 prescriptions). No statistically significant differences in their baseline characteristics were found (Table 1). The median duration of the in-hospital service by the clinical pharmacist, indicating feasibility, was 7 minutes [IQR 4, 9]. Community pharmacies performed 183 PIs for the 76 control group prescriptions, and 169 PIs for the 76 intervention group prescriptions. The Poisson regression analysis (Table 2) revealed that being allocated to the intervention group was an independent predictor for a lower number of PIs (relative risk 0.78 (CI 0.62-0.99), p=0.04). With increasing length of stay, the number of PIs decreased. Pharmacists filling the prescription instead of other staff, as well as increasing number of prescription items correlated with a higher number of PIs. In the logistic regression analysis (Table 2), being in the intervention group was also an independent predictor for having any PI (0.33 (CI 0.13-0.78), p=0.01)).

Secondary outcomes are presented in Table 3. PIs with clinical significance measured by $CLEO_{de}$ significantly decreased in the intervention group, and those with an economic significance increased. There were significant differences between both groups in terms of contacts established for the clarification of a PI by the pharmacy staff and their satisfaction. However, no differences were found for the time needed to fill the prescription. Readmission rates did not differ between the groups (Table 3). In the Table 4, the patterns of performed PIs in the community pharmacy are shown.

Discussion

We conducted a randomised controlled trial with a pragmatic, 7 minute in-hospital discharge service performed by a clinical pharmacist. Being allocated to the intervention group was an independent predictor of lower number of PIs. Clinically significant PIs were significantly reduced in the intervention group. The number of different persons contacted to discuss the PIs did differ between the groups, and there were less hospital physicians contacted in the intervention group. Prescription filling was of equal duration in both groups. Satisfaction of the pharmacy staff with the quality of prescription was enhanced through the pragmatic in-hospital service.

Primary outcome

Overall, being allocated to the intervention group was a predictor for having less PIs, as was hypothesised based on similar services [30]. The effect was even stronger when prescriptions were categorised according to whether they needed no or any PI. A longer length of stay correlated with a lower PI rate. It can be hypothesised that with longer hospital stay, discharge prescriptions were more carefully prepared. The length of stay in Swiss acute care settings has decreased in recent years [31]. This may be due to new remuneration systems which make early discharges economically more attractive to hospitals. In the pharmacy, the most qualified staff (pharmacists) performed the higher number of PIs. This may not be generalizable to other countries, but a Swedish study showed similar trends [29].

The rate of PIs per patient in the control group (median 2) was similar to a Swiss study in general pharmacy clients in the German speaking region (mean of 1.2 PIs) [32], but much lower than in a study from the French speaking region (mean 6.9 PIs) [30]. This second group studied older patients and had a study pharmacist facilitating PI documentation in the pharmacies.

Secondary outcomes

The PIs performed showed different beneficial significances in both study groups. Through the service, there was a high and significant effect on the clinical and economic significance of the PIs. There were significantly less PIs needed with any clinically beneficial significance in the intervention group. That can be interpreted as a quality indicator for the discharge prescription, which led less frequently to the identification of DRPs. On the other hand, significantly more economical PIs, which may reduce costs, were performed in the intervention group. This could be due to an increase of adaptation of package sizes to the annotated therapy duration. It can be assumed that the health care costs would be reduced, but this was out of the scope of this study and should be evaluated in a cost-effectiveness study.

The number of contacts that were established between the community pharmacy staff and other health care professionals differed statistically significantly between the groups. There seemed to be fewer contacts to the hospital physicians. This would prevent physicians from being interrupted, possibly preventing errors, and reduce the need for costly resources. This shows that the studied in-hospital

services were useful, especially for hospital-related problems and questions that would usually be solved with a call to the hospital.

Satisfaction of community pharmacists with discharge prescriptions was already high in the control group but was even higher in the intervention group. This is consistent with a prior discharge organisation trial at our study site [33]. It is possible that the satisfaction was not specifically influenced by the service itself, but through participation in the study.

Drug-drug interactions triggered less PIs in the intervention group. There is an obvious correlation to the service, as interactions were clarified or annotated on the prescription as tolerable. There were more PIs in the intervention group related to therapy duration. This may be due to the enhanced communication of a specified therapy duration, which, for example, triggered more exact adaptions of package sizes. Clarifications were reduced in the intervention group, a task that was reported to be highly work-intensive in a previous study [2]. We hypothesised that the time needed would be reduced in the intervention group, which was not the case. A reason may be, that documentation was mostly done in round numbers (e.g. 10 minutes) instead of the exact time and should therefore be interpreted with caution.

The intervention did not significantly influence the readmission rates. But the rates in the control group were similar to countrywide data [31]. Overall, readmission rates may be influenced by hospital characteristics [34].

Strengths and Limitations

A strength of our study is that we used a RCT design, in contrast to a previous before-after study showing a greater effect [30]. A pragmatic approach was chosen for the design of the service, as clinical pharmacy resources in our country have to be used efficiently [17]. The intervention needed only 7 minutes per patient to perform, which is much shorter than in other trials, and can be judged as feasible [30]. On one hand, pragmatic trials best reflect effectiveness in clinical practice, and it is thought this will support later implementation [16]. On the other hand, pragmatic services do not account for all DRPs and therefore may

have a lower impact on process measures and a patient's health outcome. Overall, process measures are useful and widely used to detect the effectiveness of a service in transition of care [12].

It is not known how equally community pharmacists documented PIs or if they used best or common practice. One shortcoming of our study is the fact that community pharmacists were blinded to randomisation, but they may have detected differences in information content on prescriptions. Therefore, we cannot completely rule out that reporting in pCRFs has been influenced. Residents were informed about the study, and PIs to their patients' prescriptions could have led to higher quality of the following prescriptions.

Topics chosen to be addressed in this RCT, such as medication changes and interactions were based on the findings of a previous study, where Swiss community pharmacists evaluated availability and usefulness of discharge information [2]. To increase the possibility of measuring the differences in readmissions, the study should have been powered for this outcome. The study was performed only at one study site. Generalisability could therefore be limited, but the international literature has studied similar topics [9, 35]. Therefore, our findings may be generalizable to other regions or countries with a similar health care setting.

Conclusion

The results of our study suggest that a pragmatic, 7-minutes in-hospital service reduces the risk of prompting pharmaceutical interventions at post-hospital dispensing in community pharmacies. Thus, the service may improve hospital discharge prescription quality in an efficient and effective way. In a health care system with limited resources, the service might ultimately improve patient safety at transitions of care.

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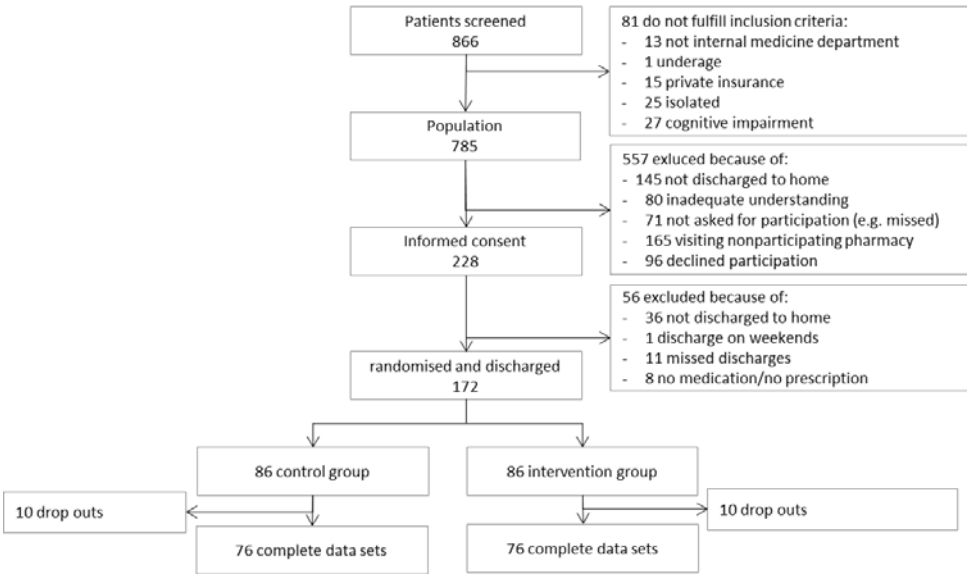

Figure 1: Flow chart of patient enrolment with inclusion and exclusion criteria

Table 1: Baseline characteristics and outcomes of the 152 enrolled patients (76 patients in the control group and 76 patients in the intervention group). Fisher's Exact Test was used for categorial variables, Kruskal-Wallis Test for continuous and discrete variables.

	Control group (n=76)	Intervention group (n=76)	p
Age, median [IQR]	71 [57, 79]	72 [61, 79]	0.46
Male gender, n (%)	43 (56.6)	48 (63.2)	0.51
Emergency admission, n (%)	57 (75.0)	63 (82.9)	0.32
Hospitalisation ward, n (%)			0.89
Ward A	28 (36.8)	30 (39.5)	
Ward B	30 (39.5)	30 (39.5)	
Ward C	18 (23.7)	16 (21.1)	
Length of stay, median days [IQR]	7.00 [4.75, 10.00]	5.50 [4.00, 8.00]	0.51
Number of medicines, median [IQR]	6 [4, 9]	6 [4, 10]	0.68

Table 2: Regression models: Poisson regression analysis model for the primary outcome for the number of interventions, and logistic regression analysis model for the number of prescriptions with no or at least 1 intervention, n=152, * = statistically significant, CI= Confidence interval

	Poisson regression model for number of interventions		Logistic regression model for number of prescriptions with no or at least 1 intervention	
	Relative risk (95% CI)	p	Odds ratio (95% CI)	p
Intervention group	0.78 (0.62-0.99)	0.04*	0.33 (0.13- 0.78)	0.01*
Emergency admission	0.80 (0.64-1.02)	0.07	0.56 (0.14-1.89)	0.37
Male sex	0.96 (0.76-1.21)	0.73	0.39 (0.15-0.95)	0.04*
Length of hospital stay	0.97 (0.95-0.99)	<0.01*	0.86 (0.77-0.97)	0.01*
Age	0.99 (0.99-1.00)	0.16	0.99 (0.96-1.02)	0.47
Number of prescribed items	1.17 (1-14-1.20)	<0.01*	1.39 (1.19-1.68)	<0.01*
Pharmacy technician filling	1.24 (0.89-1.76)	0.21	1.29 (0.39-4.10)	0.67
Pharmacist filling	1.56 (1.11-2.24)	0.01*	2.17 (0.59-8.06)	0.24

Table 3: Filling of the prescription, number and significance of performed interventions and data on readmission. Fisher's Exact Test was used for categorical variables, Kruskal-Wallis Test for continuous or discrete variables. [a] 0=day of discharge, * = statistically significant, IQR = Interquartile range, PI = Pharmaceutical intervention

	Control group (n=76)	Intervention group (n=76)	p
Number of PIs per patient, median [IQR]	2 [1, 3]	1 [0, 3]	0.10
Number of PIs per medicine, median [IQR]	0.33 [0.17, 0.50]	0.17 [0.00, 0.44]	0.05
Significance of performed interventions			
Clinical significance (any clinical benefit)	108 (59.0)	71 (42.0)	<0.01*
Economic significance (lower costs)	80 (43.8)	98 (58.0)	<0.01*
Organisational significance (lower effort)	60 (32.8)	47 (27.8)	0.35
Time needed to fill the prescription, median minutes [IQR]	10.00 [6.75, 20.00]	10.00 [5.00, 15.00]	0.51
Contacts established for the PI, n (%)			0.04*
Only pharmacist	104 (56.8)	95 (56.2)	
Hospital physician	25 (13.7)	10 (5.9)	
General practitioner	0	1 (0.6)	
Hospital caregiver	0	3 (1.8)	
Home care	1 (0.5)	2 (1.2)	
Patient / relative	52 (28.4)	57 (33.7)	
Other	1 (0.5)	1 (0.6)	
Satisfaction about prescription quality, n (%)			0.02*
very satisfied	41 (53.9)	52 (68.4)	
rather satisfied	27 (35.5)	24 (31.6)	
rather unsatisfied	6 (7.9)	0 (0.0)	
very unsatisfied	1 (1.3)	0 (0.0)	
not applicable	1 (1.3)	0 (0.0)	
Readmission rate [a], n (%)			
within 7 days	2 (2.6)	3 (3.9)	1.00
within 18 days	5 (6.6)	3 (3.9)	0.72
within 30 days	8 (10.5)	4 (5.3)	0.37
Time to fill the prescription after discharge, median day[a],	0 [0, 0]	0 [0, 1]	0.09

[IQR]			
Job role of the person filling the prescription, n (%)			0.95
Pharmacist	24 (31.6)	22 (28.9)	
Pharmacy technician	41 (53.9)	42 (55.3)	
other (e.g., apprentice)/unknown	11 (14.5)	12 (15.8)	

Table 4: Pharmaceutical interventions (PIs) in the community pharmacy, documented and classified with categories C, D and F of pharmDISC [22]. n=152, 76 patients in each group.

	Control group (183 PIs)	Intervention group (169 PIs)
C Cause of intervention, all, n (%)		
C1.1 No concordance with guidelines, only suboptimal therapy possible	0	0
C1.2 Contraindication	3 (1.6)	0
C1.3 Interaction	19 (10.4)	3 (1.8)
C1.4 Drug not indicated	0	0
C1.5 Duplication	4 (2.2)	1 (0.6)
C1.6 Adverse effect	0	0
C1.7 Missing patient documentation	0	0
C2.1 Inappropriate dosage form/administration route	2 (1.1)	3 (1.8)
C3.1 Underdose	0	0
C3.2 Overdose	1 (0.5)	1 (0.6)
C3.3 Inappropriate monitoring	1 (0.5)	0
C3.4 Dose not adjusted to organ function	0	0
C4.1 Inappropriate timing or frequency of administration	5 (2.7)	2 (1.2)
C4.2 Inappropriate application	0	1 (0.6)
C4.3 Inappropriate therapy duration	36 (19.7)	57 (33.7)
C5.1 Insufficient compliance	3 (1.6)	3 (1.8)
C5.2 Insufficient knowledge	7 (3.8)	4 (2.4)
C5.3 Concerns about the treatment	14 (7.7)	13 (7.7)
C5.4 Financial burden	16 (8.7)	17 (10.1)
C6.1 Prescribed drug not available	18 (9.8)	24 (14.2)
C6.2 Error in medication process	30 (16.4)	17 (10.1)
C6.2a Error in substitution due to process	2 (1.1)	7 (4.1)
C7.1 Incomplete/unclear prescription	13 (7.1)	9 (5.3)
C7.2 Illegible prescription	0	0
C7.3 Missing prescription of necessary application aids	6 (3.3)	5 (3.0)
C7.4 Formal/regulatory reason	3 (1.6)	2 (1.2)
D Type of Intervention, all, n (%)		

D1 Substitution	52 (28.4)	52 (30.8)
D2 Dose adjustment	4 (2.2)	1 (0.6)
D3 Adjustment of package size/quantity	40 (21.9)	66 (39.1)
D4 Optimisation of administration/route	12 (6.6)	4 (2.4)
D5 Therapy stopped/no delivery	9 (4.9)	2 (1.2)
D6 Therapy started/continued	6 (3.3)	13 (7.7)
D7 In-depth counselling of patient	10 (5.5)	4 (2.4)
D8 Application instruction (training)	1 (0.5)	8 (4.7)
D9 Delivery of compliance aid incl. counselling	4 (2.2)	2 (1.2)
D10 Clarification/addition of information	42 (23.0)	17 (10.1)
D11 Transmission of information	0	0
D12 Proposition of therapy monitoring	3 (1.6)	0
F Accepted and implemented interventions, n (%)	182 (99.5)	163 (96.4)